

Application No. 10/689,775

Docket No. 2002-061R1  
PATENTREMARKS

Claims 1-9, 12-19, 22 and 23 are now pending in the above-referenced patent application. Claims 1, 12 and 17 have been amended and claim 23 is new. Applicants respectfully request further consideration of these claims, in view of the amendments set forth above and the following remarks.

Examiner Interview

Applicants thank the Examiner for the courtesy of an interview on April 11, 2006, during which the then-pending claims, and the prior art were discussed. No agreement was reached.

Amended Claims

Claims 1, 12 and 17 have each been amended. Claims 1 and 12 were amended to advance prosecution by further requiring that the copolymer is used to modify the surface tension of an olefin substrate by an amount of at least 10 mN/m. Applicants reserve the right to pursue the original subject matter of claims 1 and 12 in a continuation application. Claim 17 was amended to correct a dependency.

No new matter has been added.

New Claims

New claim 23 has been added to claim certain preferred embodiments of the invention.

No new matter has been added.

Rejections Under 35 U.S.C. § 102(b) (Charmot)

The Office action rejects claims 1-9, 12-19 and 22 under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 6,395,850 (hereafter "Charmot").

Applicants respectfully traverse these rejections.

Charmot is directed to dithio compounds useful in assisting in polymerization of monomers in a free radical polymerization, polymers made with those compounds and methods of polymerization. Charmot lists a large number of monomers that can be polymerized with the

Application No. 10/689,775

Docket No. 2002-061R1  
PATENT

dithio compounds. See Charmot, column 10, lines 1-57. Charmot also teaches that the polymers can be copolymers and can be random or block copolymers. The examples in Charmot only involve homopolymerizations.

In the present invention, independent claims 1, 12 and 22 require specific types of monomers to be polymerized in a specific order to create specific types of polymers. The methods combining these features are not specifically disclosed in Charmot. Instead, Charmot discloses a laundry list of monomers that can be polymerized using the dithio compounds disclosed therein.

As recited in claim 1, there is no teaching in Charmot of first polymerizing a hydrophilic monomer and then polymerizing an olefin monomer. Furthermore, claim 1 has been amended to recite that the method further comprises modifying the surface tension of an olefinic substrate by an amount of at least 10 mN/m with the block copolymer. Charmot does not disclose modifying an olefinic substrate at all. Applicants submit that one of ordinary skill in the art would not envisage the method claims of the present invention because Charmot does not speak to the combination of hydrophilic monomers and olefin monomers in a block copolymer as claimed.

As recited in claim 12, there is no teaching in Charmot of first polymerizing an olefin monomer and then polymerizing a hydrophilic monomer. Furthermore, claim 12 has been amended to recite that the method further comprises modifying the surface tension of an olefinic substrate by an amount of at least 10 mN/m with the block copolymer. Charmot does not disclose modifying an olefinic substrate at all. Applicants submit that one of ordinary skill in the art would not envisage the method claims of the present invention because Charmot does not speak to the combination of olefinic monomers and hydrophilic monomers in a block copolymer as claimed.

Finally, independent claim 22 requires at least partially hydrogenating the random block. This is not taught anywhere in Charmot. This feature has not been addressed in the Final Office action. Furthermore, Charmot does not teach polymerizing a hydrophilic monomer first and subsequently reacting the hydrophilic block with at least one olefinic monomer and one monomer that is hydrophilic with respect to the olefinic monomer to form the random block.

For at least these reasons, Applicants request that the rejections be withdrawn.

Application No. 10/689,775

Docket No. 2002-061R1  
PATENTObviousness-Type Double Patenting Rejections

Claims 1-9, 12-19 and 22 have been rejected under the judicially created doctrine of obviousness-type double patenting as allegedly being unpatentable over claims 1-20 of Charmot, as allegedly being unpatentable over claims 8-16 and 20-26 of U.S. Patent No. 6,767,968 (hereafter "the '968 patent"), and as allegedly being unpatentable over claims 1-13 of U.S. Patent No. 6,569,969 (hereafter "the '969 patent").

Applicants respectfully traverse this rejection.

The claims at issue are patentably distinct from the claims in Charmot, the '968 patent and the '969 patent. The present claims require making specific types of block copolymers using dithio control agents. Independent claim 1 requires polymerizing a liquid hydrophilic monomer in the presence of a dithio-containing control agent to create a hydrophilic block, subsequently reacting the hydrophilic block with an olefin monomer to form an olefinic block and modifying the surface tension of an olefinic substrate by an amount of at least 10 mN/m. Independent claim 12 requires polymerizing an olefinic monomer in the presence of a dithio-containing control agent to create an olefinic block, subsequently reacting the olefinic block with a hydrophilic monomer capable to form a hydrophilic block and modifying the surface tension of an olefinic substrate by an amount of at least 10 mN/m. Independent claim 22 requires polymerizing a hydrophilic monomer under free radical polymerization conditions in the presence of a dithio-containing control agent to create at least one hydrophilic block and subsequently reacting the hydrophilic block with an olefinic monomer and one monomer that is hydrophilic with respect to the olefinic monomer to form the random block, and at least partially hydrogenating the random block.

The claims of Charmot recite polymerizing one or more monomers using a dithio control agent. The claims of Charmot also teach that the polymer can be a block copolymer. The claims of Charmot do not even hint at the specific steps using specific monomer types in the order as recited in the claims of the present invention, modifying the surface tension of an olefin substrate with the resulting copolymer as claimed in amended independent claims 1 and 12, or the step of hydrogenating the random block as claimed in independent claim 22. To the extent that the Office action is relying on the specification of Charmot to fill in any missing gaps, Applicants submit that this is improper. "[C]omparison can be made only with what invention is *claimed* in the earlier patent. . . . Our precedent makes it clear that the *disclosure* of a patent cited in support

Application No. 10/689,775

Docket No. 2002-061R1  
PATENT

of a double patenting rejection cannot be used as though it were prior art . . . ." General Foods Corp. v. Studiengesellschaft Kohle mbH, 972 F.2d 1272 1280-1281, 23 USPQ2d 1839 1845-1846 (Fed. Cir. 1992). The present claims are not directed generally to making polymers with dithio control agents, but recite specific methods to do so, that are not obvious. The Office action has provided no reasonable basis for supporting a case that the present claims are obvious over the claims of Charmot.

The claims of the '968 patent are directed to block copolymers having hydrophilic and hydrophobic components. The claims of the '968 patent do not even hint at the use of a dithio control agent being used to make the copolymers claimed therein as is recited in all of the claims of the present invention, modifying the surface tension of an olefin substrate with the copolymers as claimed in amended independent claims 1 and 12, or the step of hydrogenating the random block as claimed in independent claim 22. To the extent that the Office action is relying on the specification of the '968 patent to fill in any missing gaps, Applicants submit that this is improper as discussed above. The present claims are directed to specific methods for making specific types of block copolymers with dithio control agents. The Office action has provided no reasonable basis for supporting a case that the present claims are obvious over the claims of the '968 patent.

The claims of the '969 patent recite polymerizing one or more monomers using a multifunctional control agent. The claims of the '969 patent also teach that the polymer can be a block copolymer. The claims of the '969 patent do not even hint at the specific steps or monomer types as recited in the claims of the present invention, the resulting properties of the polymers as claimed in independent claim 1 and claims dependent thereon, or the step of hydrogenating the random block as claimed in independent claim 22. To the extent that the Office action is relying on the specification of the '969 patent to fill in any missing gaps, Applicants submit that this is improper as discussed above. The present claims are not directed generally to making polymers with dithio control agents, but recite specific methods to do so, that are not obvious. The Office action has provided no reasonable basis for supporting a case that the present claims are obvious over the claims of the '969 patent.

For at least these reasons, Applicants request the double patenting rejections be withdrawn.

Application No. 10/689,775

Docket No. 2002-061R1  
PATENTEquivalents

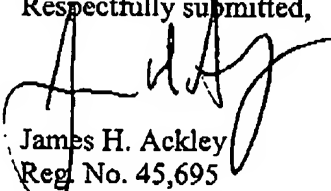
The amendments to the claims and the arguments presented in response to the Final Office action have been made to claim subject matter which the Applicants regard as their invention. By such amendments, the Applicants in no way intend to surrender any range of equivalents beyond that which is needed to patentably distinguish the claimed invention as a whole over the prior art. Applicants expressly reserve patent coverage to all such equivalents that may fall in the range between Applicants literal claim recitations and those combinations that would have been obvious in view of the prior art. In particular, as noted above, many of the claims have not been narrowed within the meaning of *Festo Corp. v. Shoketsu Kinzoku Kogyo Kabushiki Co.*, 62 USPQ2d 1705 (2002), and Applicants are therefore entitled to the full range of equivalents with respect to each of the presently-pending claims.

CONCLUSION

In view of the foregoing, Applicants believe all claims now pending in this Application are in condition for allowance. The issuance of a formal Notice of Allowance at an early date is respectfully requested.

Applicants believe that no further fees are required in connection with the instant amendment. If necessary, however, the Examiner is hereby authorized to charge any fees required in connection with this application to Deposit Account No. 50-0496.

Respectfully submitted,

Date Submitted: 4/11/06  
James H. Ackley  
Reg. No. 45,695  
Attorney for Applicants

Symyx Technologies, Inc.  
3100 Central Expressway  
Santa Clara, CA 95051  
Ph: (408) 720-2598  
Fax: (408) 773-4029